WOSC10

PREVIEW QUESTION BANK

Module Name : Chemistry and Chemical Sciences-E
Exam Date : 25-Mar-2018 Batch : 11:00-13:00

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Sr. No.	Client Question ID	Question Body and Alternatives	Marks	Negative Marks
Objective Question				
1	1	Fedaration Cup, World Cup, Allwyn International Trophy and Challenge Cup are awarded to winners of A1 : Tennis **A2 : Volleyball – (Correct Alternative)** A3 : Basketball A4 : Cricket	1.0	0.25
Objective Question				
2	2	Which is the first country in the world to use drones for national mail service? A1 : Russia **A2 France – (Correct Alternative)**	1.0	0.25

		: A3 : Sweden A4 : China		
Objective Question				
3	3	Consider the following materials/objects: A. Cornea B. Diamond C. Silicon D. Sodium Chloride The above materials/objects when arranged in increasing order of refractive index would be as follows: A1 : ADCB **A2 : ADBC – (Correct Alternative)** A3 : DABC A4 : DACB	1.0	0.25
Objective Question				
4	4	Various developed countries often claim that cattles in less developed countries are responsible for huge release of green house gases, thus causing green house effect. The developed countries often use this logic that these countries have lot of low yield cattle and if high yield cattle are adopted on a large basis, then release of significant amount of greenhouse gases can be checked from releasing in the atmosphere. Cattles release the greenhouse gases due to:	1.0	0.25

		A1 : Methanogenic bacteria in the stomach – (Correct Alternative) A2 : Improper handling of cow waste (eg: cow-dung, urine,etc.) A3 : Improper handling of leftover fodder A4 : High use of chemical fertilizers in agriculture		
Objective Question				
5	5	Consider the following statements and select the wrong option A1 : If a person is stung by a honeybee it causes pain and irritation. In such case, if baking soda is applied to the area, it provides relief to the person. A2 : Vitamin E is helpful in relief from sunburns **A3 : On various sunscreen creams/lotions SPF is mentioned. SPF stands for Sun Protection Factor. SPF 20 means that the lotion is protecting you from 20% of the harmful UV radiations in the sunlight. – (Correct Alternative)** A4 : Vitamin D is required for the absorption of calcium by human beings	1.0	0.25
Objective Question				
6	6		1.0	0.25

		Following are some observed natural phenomena : A. Mirage seen in places like deserts B. In winter sound of a whistle of a railway engine is heard at much longer distances C. Twinkling of a star in night as seen by naked eye D. Visibility of sun for some time after the sunset Which of the above natural phenomena are related to the variation in density of atmospheric air? A1 : ABD A2 : BCD **A3 : ABCD – (Correct Alternative)** A4 : None of these		
Objective Question				
7	7	The following are some common diseases: A. Diphtheria B. Rabies C. Cholera D. Malaria Which of the above diseases are not caused by Virus? A1 : ABC A2 BCD	1.0	0.25

		: **A3 : ADC – (Correct Alternative)** A4 : ABD		
Objective Question				
8	8	Which of the following is Greenhouse gas? A1 : Carbon Monoxide **A2 : Carbon Dioxide – (Correct Alternative)** A3 : Sulphur Dioxide A4 : Chlorine	1.0	0.25
Objective Question				
9	9	Tuberculosis is caused due to **A1 : Bacteria – (Correct Alternative)** A2 : Virus A3 : Fungus A4 : None of the above	1.0	0.25

Objective Question				
10	10	United Nations Headquarter is situated at A1 : Geneva A2 : Washington D.C. **A3 : New York – (Correct Alternative)** A4 : Paris	1.0	0.25
Objective Question				
11	11	A seller gives a discount of 25% on a product with MRP marked INR 3680. He earns a profit of 15% over its cost price in this transaction. Cost price of the product is A1 : 2100 A2 : 2200 A3 : 2300 **A4 : 2400 – (Correct Alternative)**	1.0	0.25
Objective Question				
12	12	The side of a rectangular field is in ratio 4:5. Area of the field is 12500 sq mt. If the cost of fencing is INR 5/meter, how much it will cost to fence entire field? A1 : INR 61,000	1.0	0.25

		A2 : INR 62,500 – (Correct Alternative) A3 : INR 63,500 A4 : INR 65,000		
Objective Question				
13	13	A box has 3 red, 2 yellow and 5 green balls. If two balls are drawn at random, what is the probability that both are yellow balls? **A1 : 1⁄45 – (Correct Alternative)** A2 : 5⁄18 A3 : 3⁄31 A4 : 2⁄9	1.0	0.25
Objective Question				
14	14	If X and Y together can do a piece of work in 6 days. X alone can do the same work in 15 days. What time will Y take to do the same work alone? A1 : 8 days A2 : 9 days **A3 : 10 days – (Correct Alternative)**	1.0	0.25

		A4 : 12 days		
Objective Question				
15	15	If a solid sphere of radius 15 cm is molded into 27 spherical smaller solid balls of equal radius, then the surface area of each smaller ball is **A1 : $100\Omega cm^2$ – (Correct Alternative)** A2 : $105\Omega cm^2$ A3 : $110\ \Omega cm^2$ A4 : $115\Omega cm^2$	1.0	0.25
Objective Question				
16	16	Three six-sided dice are rolled simultaneously, what is the probability of getting a different number on each dice? A1 : 1/3 A2 : 2/3 A3 : 4/9 **A4 : 5/9 – (Correct Alternative)**	1.0	0.25
Objective Question				

17	17	The speed of a boat is 20 km/hr in still water. If the river is running at 5 km/hr, it takes boat 96 minutes to go to a place and come back to initial position. How far is the place from the initial point? A1: 12 km A2: 13 km **A3: 15 km – (Correct Alternative)** A4: 18 km	1.0	0.25
Objective Question				
18	18	What is the probability of drawing an Ace or a King from a deck of 52 cards? A1: 1/13 **A2: 2/13 – (Correct Alternative)** A3: 1/52 A4: 1/26	1.0	0.25
Objective Question				
19	19	A cricketer has an average of 55 runs in 5 innings. Find out how many runs she needed to score in her sixth innings to raise her average to 60 runs? A1: 60	1.0	0.25

		A2: 75 A3: 80 **A4: 85 – (Correct Alternative)**		
Objective Question				
20	20	The LCM of two numbers is 900 and their HCF is 50. If one of the numbers is 450, the other is A1: 120 **A2: 100 – (Correct Alternative)** A3: 125 A4: 150	1.0	0.25
Objective Question				
21	21	If you write an original software, what type of IP rights you can get to make and sell copies of your work? **A1: Copyright – (Correct Alternative)** A2: Patents A3: Registered Designs	1.0	0.25

		A4 : Trademarks		
Objective Question				
22	22	International organization with objective to encourage creative activity and to promote intellectual property throughout world is **A1 : WIPO – (Correct Alternative)** A2 : World Bank A3 : WTO A4 : UNDP	1.0	0.25
Objective Question				
23	23	_____ is a form of intellectual property that protects the expression of ideas A1 : Trade name **A2 : Copyright – (Correct Alternative)** A3 : Patent A4 : Trade Mark	1.0	0.25
Objective Question				
24	24	A formula, process, device or other business information that has	1.0	0.25

		commercial value and is kept confidential to maintain an advantage over competitors is known as a: A1: Patent **A2: Trade secret – (Correct Alternative)** A3: Copyright A4: Trade Mark		
Objective Question				
25	25	Fair use allows you to use a limited amount of copyrighted material for your educational use. Which step below does NOT pass the fair use test? A1: Will be used for a non-profit educational purpose **A2: Will be used on a Web page – (Correct Alternative)** A3: Will only use a small portion A4: Will not deprive the author from making money	1.0	0.25
Objective Question				
26	26	Term of patent in India is A1: 15 years	1.0	0.25

		A2: 25 years **A3: 20 years – (Correct Alternative)** A4: 10 years		
Objective Question				
27	27	What does a trademark protect? A1: An invention A2: a work of art **A3: logos, names and brands – (Correct Alternative)** A4: the look, shape and feel of a product	1.0	0.25
Objective Question				
28	28	If a company develops a new technology that improves its main product, what type of intellectual property can they use to stop others from copying their invention ? A1: Copyright A2: Geographical indications **A3: Patents – (Correct Alternative)**	1.0	0.25

		A4 : Trademarks		
Objective Question				
29	29	A patent awarded by the patent office in Japan is valid in: A1 : Indonesia **A2 : Japan – (Correct Alternative)** A3 : All ASEAN countries A4 : All countries that adhere to TRIPS	1.0	0.25
Objective Question				
30	30	Which of the following is NOT a basic requirement for a patent? A1 : It must have utility A2 : It must be novel A3 : It must not be obvious to a person of ordinary skill in the field **A4 : It must be extraordinary creative – (Correct Alternative)**	1.0	0.25
Objective Question				
31	31	Choose the word or phrase that is most nearly opposite in meaning to the word in capital letter . LICENSED: A1 Unnoticed	1.0	0.25

		: A2 : unwritten **A3 : not formally authorised – (Correct Alternative)** A4 : not properly trained		
Objective Question				
32	32	Clear the jumble and select a grammatically correct sentence which also makes sense. To/ pay/ fifty/ rupees/ much/ too/ was/ me/ for/ thousand/ just **A1 : Fifty thousand rupees was just too much for me to pay – (Correct Alternative)** A2 : Pay just fifty thousand rupees to me was too much A3 : Fifty thousand rupees was too much just to pay for me A4 : To pay just fifty thousand rupees was too much for me	1.0	0.25
Objective Question				
33	33	Select the word or set of words that best completes the following sentence. Because our supply of fossil fuel has been sadly ___, we must find ___ source of energy. A1 : stored…..hoarded A2 : compensated……significant	1.0	0.25

		A3: exhausted….inefficient **A4: depleted…..alternate – (Correct Alternative)**		
Objective Question				
34	34	Tick the word closest in meaning to the word in *italics*- an *audacious* attempt A1: useless A2: foolish **A3: bold – (Correct Alternative)** A4: crazy	1.0	0.25
Objective Question				
35	35	Choose the most appropriate word to complete the following sentence: There is a _____ of cows in the next field. A1: Flock A2: Swarm A3: Group **A4: Herd – (Correct Alternative)**	1.0	0.25

Objective Question				
36	36	Choose the phrase which fits the sentence best : The bus _____ coming. A1 : Will A2 : Has **A3 : Is – (Correct Alternative)** A4 : On	1.0	0.25
Objective Question				
37	37	Choose the correctly spelt word: **A1 : adversity – (Correct Alternative)** A2 : adeversity A3 : advercity A4 : aedversity	1.0	0.25
Objective Question				
38	38	Which of the following words best explains the phrase given below? One who abandons his religious faith. A1 : traitor	1.0	0.25

		A2: apostate – (Correct Alternative) A3: prostrate A4: blasphemer		
Objective Question				
39	39	Select the word that is most appropriate to complete the sentence: He was blind _____ one eye. A1: with A2: along **A3: in – (Correct Alternative)** A4: on	1.0	0.25
Objective Question				
40	40	Choose the word or phrase that is most nearly opposite in meaning to the given word. **Widely** **A1: narrowly – (Correct Alternative)** A2: spaciously A3: broadly	1.0	0.25

		A4 : relatively		
Objective Question				
41	41	Which of the following are prime numbers? A1 : 1,3,5 A2 : 1,5,7 **A3 : 2,3,5 – (Correct Alternative)** A4 : 1,7,9	1.0	0.25
Objective Question				
42	42	A watch which gains 5 seconds in 3 minutes was set right at 7 a.m. In the afternoon of the same day, when the watch indicated quarter past 4 o'clock, the true time is A1 : $59\frac{7}{11}$ min. past 3 p.m. **A2 : 4 P.M. – (Correct Alternative)** A3 : $58\frac{7}{11}$ min., past 3 p.m. A4 : $2\frac{3}{11}$ min. past 4 p.m	1.0	0.25
Objective Question				
43	43	In a shower, 5 cm of rain falls. The volume of water that falls on 1.5 hectares of ground is	1.0	0.25

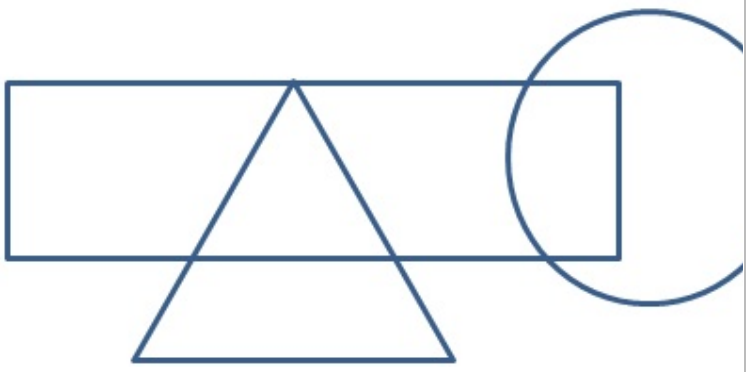
		A1 : 75 cu. m **A2 : 750 cu. m – (Correct Alternative)** A3 : 7500 cu. m A4 : 75000 cu. m		
Objective Question				
44	44	The total time taken by a boatman to row his boat upstream and downstream distance of 56 km together is 12 hours. The difference between times taken by him to row his boat another upstream and downstream distance of 42 km is 3 hours. Find the speed of boat and stream. A1 : 12.5 kmph, 1.5 kmph A2 : 11.5 kmph, 2.5 kmph A3 : 9.5 kmph, 4.5 kmph **A4 : 10.5 kmph, 3.5 kmph – (Correct Alternative)**	1.0	0.25
Objective Question				
45	45	A says to B “I am twice as old as you were when I was as old as you are”. The sum of their ages is 56 years. Find the difference of their ages. A1 : 9	1.0	0.25

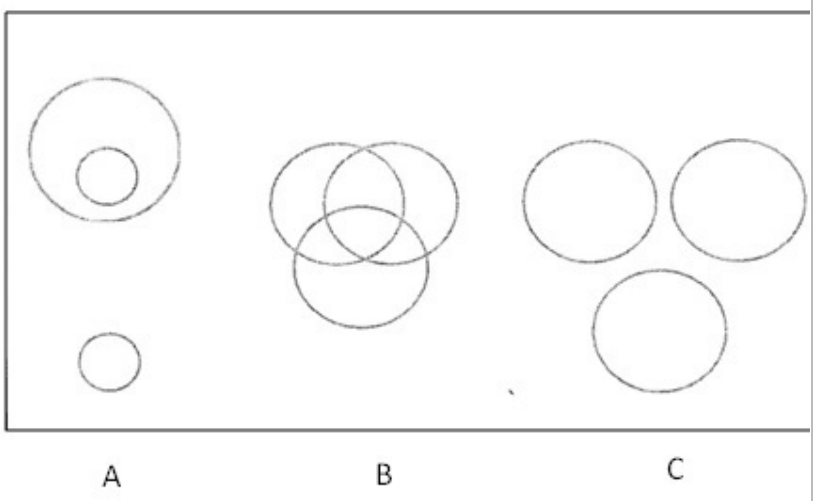
		A2: 11 A3: 13 **A4: 8 – (Correct Alternative)**		
Objective Question				
46	46	A container contains 40 litres of milk. From this container 4 litres of milk was taken out and replaced by water. This process was repeated further two times. How much milk is now contained by the container? A1: 26.16 A2: 28.16 **A3: 29.16 – (Correct Alternative)** A4: 30.16	1.0	0.25
Objective Question				
47	47	How many times is the HCF of 48, 36, 72, and 24 contained in their LCM? A1: 8 times A2: 16 times **A3 12 times – (Correct Alternative)**	1.0	0.25

		: A4 : 4 times		
Objective Question				
48	48	In how many different ways can the letters of the word 'OPTICAL' be arranged so that the vowels always come together? A1 : 120 **A2 : 720 – (Correct Alternative)** A3 : 4320 A4 : 1440	1.0	0.25
Objective Question				
49	49	Tea worth Rs. 126 per kg and Rs. 135 per kg are mixed with a third variety in the ratio 1:1:2. If the mixture is worth Rs. 153 per kg, the price of the third variety per kg will be: A1 : Rs. 169.50 A2 : Rs. 170 A3 : Rs. 180 **A4 : Rs. 175.50 – (Correct Alternative)**	1.0	0.25

Objective Question				
50	50	In an exam, Class A scored an average of 50 marks with standard deviation of 5. Class B scored an average of 50 with standard deviation of 9. Which of the following statements is true? A1: Class B has more students than Class A. A2: Class A has more students than Class B A3: Class A has more outlier students than Class B **A4: Class B has more outlier students than Class A – (Correct Alternative)**	1.0	0.25
Objective Question				
51	51	C is favorite child of F. C is fond of her younger brother B. B is not the only sibling of A. F loves her father M. What is A to M? **A1: Grand child – (Correct Alternative)** A2: Grand parent A3: No relation A4: Parent	1.0	0.25
Objective Question				
52	52	If HEN = 124; WIRE = 9752; and RAT = 538, EATEN is _____? A1: 28324	1.0	0.25

		A2: 23874 **A3: 23824 – (Correct Alternative)** A4: 42832		
Objective Question				
53	53	A pen was marked as Rs 1000. After a good negotiation, I bought it at a discount of 20%. Now I am offering the same pen at 20% profit. What is the difference between the new price and old price? A1: Rs. 160 A2: Rs. 200 **A3: Rs. 40 – (Correct Alternative)** A4: No difference	1.0	0.25
Objective Question				
54	54	In Roman numerals, M, L, and XL stand for _____. **A1: 1000, 50, 40 – (Correct Alternative)** A2: 40, 42, 44 A3: 30, 40, 50	1.0	0.25

		A4 : 1000, 40, 50		
Objective Question				
55	55	*In the following diagram, triangle represents mathematicians, rec programmers and circle represents philosophers. Which of the follow incorrect?*  A1 : Some of the philosophers are programmers. A2 : Some of the programmers are mathematicians. **A3 : Some of the mathematicians are philosophers. – (Correct Alternative)** A4 : Some of the programmers are not mathematicians	1.0	0.25
Objective Question				
56	56		1.0	0.25

		Which of the diagrams best fits the association between Sparrow.  **A1 : A – (Correct Alternative)** A2 : B A3 : C A4 : D		
Objective Question				
57	57	A person walks at 10km/h for 6hr and at 8km/h for 12hr. Her average speed is ____ km/h A1 : 6.22 **A2 8.67 – (Correct Alternative)**	1.0	0.25

		: A3 : 3.77 A4 : 9		
Objective Question				
58	58	If K and M together own 1750 balls. If 4⁄25 of K's share is equal to 2⁄5 of M's share, how many balls M have? A1 : 1250 **A2 :** **500 – (Correct Alternative)** A3 : 750 A4 : 1050	1.0	0.25
Objective Question				
59	59	A large number of people suffer from Dengue every year in India. Dengue is spread by female mosquitoes during the day time. Dengue can be prevented by avoiding all chances of mosquitoes breeding. The para best supports the statement that A1 : Male mosquitoes do not spread diseases A2 : People should not step out during the day time **A3 :** **Mosquitoes breeding should be stopped – (Correct Alternative)**	1.0	0.25

		A4 : Dengue is the only diseases that affects Indian people		
Objective Question				
60	60	A player was asked to run around the circular cricket ground as punishment. The coach was standing at the exact center of the ground which was 100 M from the boundary. How much distance does the player cover in one round? A1 : 200.8 **A2 : 628.32 – (Correct Alternative)** A3 : 800.8 A4 : 400.4	1.0	0.25
Objective Question				
61	61	The fundamental driving force for mass transfer is A1 : Concentration difference A2 : Temperature difference A3 : Pressure difference **A4 : Chemical potential difference – (Correct Alternative)**	1.0	0.25
Objective Question				
62	62	Entropy of a spontaneous process	1.0	0.25

		A1: decreases **A2: increases – (Correct Alternative)** A3: remains constant A4: may increase or decrease		
Objective Question				
63	63	An autothermal reaction is driven by A1: concentration **A2: temperature – (Correct Alternative)** A3: catalyst A4: solvent	1.0	0.25
Objective Question				
64	64	Boltzmann-Planck equation gives A1: free energy A2: enthalpy A3 exergy	1.0	0.25

		: A4 : **entropy – (Correct Alternative)**		
Objective Question				
65	65	Bingham plastic behavior is similar to that of a fluid which is A1 : **Newtonian – (Correct Alternative)** A2 : shear thinning A3 : shear thickening A4 : thixotropic	1.0	0.25
Objective Question				
66	66	Interfacial tension between two miscible liquids A1 : always positive A2 : **always zero – (Correct Alternative)** A3 : always negative A4 : sometimes positive and sometimes negative	1.0	0.25
Objective Question				
67	67	Diffusion equation is	1.0	0.25

		A1: an algebraic equation A2: an ordinary differential equation **A3: a partial differential equation – (Correct Alternative)** A4: an integro-differential equation		
Objective Question				
68	68	The ratio of Nusselt number to Biot number is **A1: Conductive resistance of fluid / conductive resistance of solid – (Correct Alternative)** A2: Conductive resistance of fluid / Conductive resistance of fluid A3: Conductive resistance of solid / Conductive resistance of fluid A4: None	1.0	0.25
Objective Question				
69	69	Relative humidity is the ratio of the A1: partial pressure of the vapour to the vapour pressure of the liquid at room temperature A2: actual humidity to saturation humidity **A3 partial pressure of the vapour to the vapour pressure of**	1.0	0.25

		: the liquid at gas temperature – (Correct Alternative) A4 : none		
Objective Question				
70	70	The net positive suction head (NPSH) of a centrifugal pump is defined as the sum of the velocity head and the pressure head at the A1 : discharge A2 : discharge minus vapor pressure of the liquid at the discharge temperature. **A3 : suction minus vapor pressure of the liquid at suction temperature. – (Correct Alternative)** A4 : suction	1.0	0.25
Objective Question				
71	71	For the case of total reflux in a distillation column, A1 : the number of plates is infinite **A2 : Tower diameter is infinite – (Correct Alternative)** A3 : Tower diameter is minimum A4 : Both a & b	1.0	0.25
Objective Question				

72	72	Antione equation is used to calculate A1: Critical temperature **A2: Vapour pressure – (Correct Alternative)** A3: Enthalpy A4: Heat capacity	1.0	0.25
Objective Question				
73	73	In a pump, cavitation occurs when A1: Bubbles of vapor or gas forms in the casing A2: Pressure falls below the vapour pressure of the liquid A3: None **A4: Both a & b – (Correct Alternative)**	1.0	0.25
Objective Question				
74	74	For which reaction order, the half-life of the reactant is half of the full lifetime (time for 100% conversion) of the reactant? **A1: Zero order – (Correct Alternative)** A2: Half order	1.0	0.25

		A3 : First order A4 : Second order		
Objective Question				
75	75	The half-life of a first order liquid phase reaction is 30 seconds. Then the rate constant, in min^{-1}, is A1 : 0.0231 A2 : 0.602 **A3 : 1.386 – (Correct Alternative)** A4 : 2.0	1.0	0.25
Objective Question				
76	76	Tritium is an isotope of A1 : deuterium A2 : carbon A3 : helium **A4 : hydrogen – (Correct Alternative)**	1.0	0.25

Objective Question				
77	77	Ammonia is manufactured on a large scale by A1: Mond process **A2: Haber process – (Correct Alternative)** A3: contact process A4: Ostwald process	1.0	0.25
Objective Question				
78	78	Among the following oxyacids of sulphur, the one that has only one sulphur-oxygen double bond (S=O) is, A1: sulphuric acid A2: peroxodisulphuric acid A3: pyrosulphuric acid **A4: sulphurous acid – (Correct Alternative)**	1.0	0.25
Objective Question				
79	79	The outer electronic configurations of vanadium and chromium are, respectively, A1: $3d^3 4s^2$ and $3d^4 4s^2$	1.0	0.25

		A2: $3d^4 4^{s1}$ and 3d54s1 **A3: $3d^3 4s^2$ and $3d^5 4s^1$ – (Correct Alternative)** A4: $3d^4 4s^1$ and $3d^4 4s^2$		
Objective Question				
80	80	Which is a lanthanoid element? A1: Thorium **A2: Holmium – (Correct Alternative)** A3: Uranium A4: Neptunium	1.0	0.25
Objective Question				
81	81	Consider the violet-colored compound, $[Cr(OH_2)_6]Cl_3$ and the yellow compound, $[Cr(NH_3)_6]Cl_3$. Which of the following statements is false? A1: Both chromium metal ions are paramagnetic with 3 unpaired electrons **A2:** Δ_{oct} for $[Cr(NH_3)_6]^{3+}$ is calculated directly from the energy of yellow light **(Correct Alternative)** A3: Δ_{oct} for $[Cr(OH_2)_6]^{3+}$ is less than Δ_{oct} for $[Cr(NH_3)_6]^{3+}$	1.0	0.25

		A 4 : A solution of $[Cr(OH_2)_6]Cl_3$ transmits light with an approximate wavelength range of 4000-4200 Å.		
Objective Question				
82	82	What is the correct arrangement of F_2, Cl_2, Br_2, I_2 in the order of their bond dissociation enthalpy? A1 : $F_2<Cl_2<Br_2<I_2$ A2 : $F_2>Cl_2>Br_2>I_2$ **A3 : $Cl_2>Br_2>F_2>I_2$ – (Correct Alternative)** A4 : $Cl_2>F_2>Br_2>I_2$	1.0	0.25
Objective Question				
83	83	Which oxygen-species is diamagnetic? A1 : O_2 A2 : O_2^- **A3 : O_2^{2-} – (Correct Alternative)** A4 : O_2^+	1.0	0.25

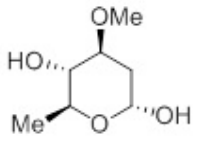
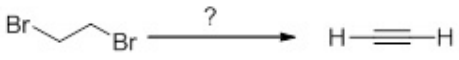
Objective Question				
84	84	What is the coordination number of the Fe atom is $K_3[Fe(C_2O_4)_3]$? A1 : 8 **A2 : 6 – (Correct Alternative)** A3 : 4 A4 : 3	1.0	0.25
Objective Question				
85	85	Which element is present in vitamin B_{12} **A1 : Cobalt – (Correct Alternative)** A2 : Calcium A3 : Copper A4 : Iron	1.0	0.25
Objective Question				
86	86	As per Boltzman distribution the distribution of molecules over energy levels and entropy is given by A1 : $k = (\exp W)/S$	1.0	0.25

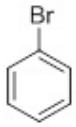
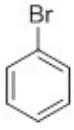
		A2 : $\frac{1}{k} = S \ln W$ **A3 : $\frac{1}{k} = \frac{\ln W}{S}$ – (Correct Alternative)** A4 : $S = W \ln k$		
Objective Question				
87	87	Zinc electrode is submerged in an acidic 0.80 M Zn^{2+} solution which is connected by salt bridge to a 1.30 M Ag^{+} solution containing a silver electrode. What is the initial voltage of the cell (vs SHE) at 298K? *(Given: Zn/Zn^{2+} = 0.76 V vs SHE and Ag/Ag^{+} -0.80 V vs SHE at 25°C)* A1 : 1.75 V **A2 : 1.57 V – (Correct Alternative)** A3 : 1.57×10^{-3} V A4 : 1.75×10^{-3} V	1.0	0.25
Objective Question				
88	88	The limiting molar conductivities of NaI, $NaCH_3CO_2$ and $Mg(CH_3CO_2)_2$ are 12.69 mS m^2 mol^{-1}, 9.10 mS m^2 mol^{-1}, 18.78 mS m^2 mol^{-1}, respectively (all at 25°C). The limiting molar conductivty of MgI_2 at this temperature is _____ **A1 : 25.96 mS m^2 mol^{-1} – (Correct Alternative)** A2 : 35.06 mS m^2 mol^{-1} A3 : 22.37 mS m^2 mol^{-1}	1.0	0.25

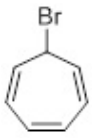
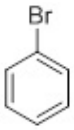
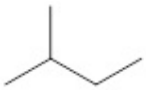
		: A4 : $13.27\ mS\ m^{-2}\ mol^{-1}$		
Objective Question				
89	89	What is the pressure at triple point of water? A1 : 5.08×10^{-3} atm **A2 : 6.04×10^{-3} atm – (Correct Alternative)** A3 : 8.05×10^{-3} atm A4 : 4.06×10^{-3} atm	1.0	0.25
Objective Question				
90	90	If the partial pressure of oxygen in the atmosphere at sea level is 2.9×10^{-4} mol kg^{-1} at 25°C, its molar solubility in water at the same temperature would be A1 : $2.9\ mmol\ dm^{-3}$ **A2 : $0.29\ mmol\ dm^{-3}$ – (Correct Alternative)** A3 : $2.9\ mol\ dm^{-3}$ A4 : $2.9\ mol\ dm^{-3}$	1.0	0.25
Objective Question				

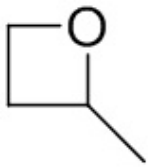
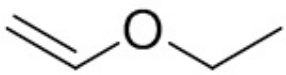
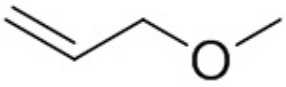
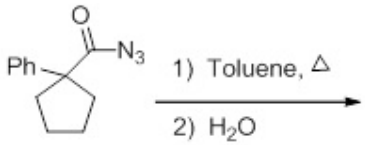
91	91	Joule Thomson Expansion for an ideal gas is A1 : Isochoric process A2 : Isobaric process A3 : Isothermal process **A4 : Isoenthalpic process – (Correct Alternative)**	1.0	0.25
Objective Question				
92	92	For a reaction of zero-order kinetics, its $t_{1/2}$ is directly proportional to ($[A]_0$= initial concentration of reactant) **A1 : $[A]_0$ – (Correct Alternative)** A2 : $[A]_0^2$ A3 : $[A]_0^{-2}$ A4 : $[A]_0^{-1}$	1.0	0.25
Objective Question				
93	93	Given that the spacing of lines in the microwave spectrum of $^{27}Al^{1}H$ is constant at 12.6 cm^{-1}, the bond length of the molecule is A1 1659.0 pm	1.0	0.25

		: A2 : 82.9 pm **A3 :** **165.9 pm – (Correct Alternative)** A4 : 829.0 pm		
Objective Question				
94	94	The reaction $A^- + H^+ \rightarrow P$ has a rate constant given by the empirical expression $k_2 = (8.72 \times 10^{12})e^{(6134K)/T}$ $dm^3mol^{-1}s^{-1}$. The enthalpy of activation at 30 °C is A1 : 51 kJ mol^{-1} A2 : 59.3 kJ mol^{-1} **A3 :** 48.5 kJ mol^{-1} **– (Correct Alternative)** A4 : 67.6 kJ mol^{-1}	1.0	0.25
Objective Question				
95	95	The orbital degeneracy of the levels in a hydrogen atom that have energy -1/9hcR_H is A1 : 3 A2 : 6	1.0	0.25

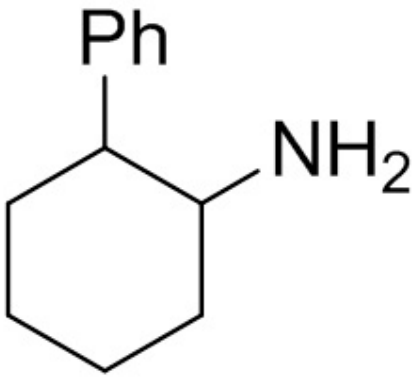
		A3 : **9 – (Correct Alternative)** A4 : 12		
Objective Question				
96	96	The total number of cyclic structural as well as stereo isomers possible for a compound with the molecular formula C_5H_{10} is  A1 : 4 A2 : 5 A3 : 6 **A4 : 7 – (Correct Alternative)**	1.0	0.25
Objective Question				
97	97	The reagent(*s*) for the following conversion  A1 : Alcoholic KOH	1.0	0.25

		A2: **alcoholic KOH followed by $NaNH_2$ – (Correct Alternative)** A3: aqueous KOH followed by $NaNH_2$ A4: Zn/CH_3OH		
Objective Question				
98	98	The 1H NMR spectrum of a dilute solution of a mixture of acetone and dichloromethane in $CDCl_3$ exhibits two singlets of 1:1 intensity. The molar ratio of acetone to dichloromethane in the solution is A1: 3:1 **A2: 1:3 – (Correct Alternative)** A3: 1:2 A4: 1:1	1.0	0.25
Objective Question				
99	99	The compound that gives precipitate on warming with aqueous $AgNO_3$ is A1:  A2: 	1.0	0.25

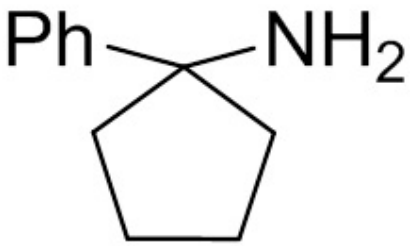
		A3 :  **– (Correct Alternative)** A4 : 		
Objective Question				
100	100	Which one of the following alkanes will give only one alkyl chloride upon reaction with chlorine and light?(in presence of light) A1 :  **A2 :** **– (Correct Alternative)** A3 : A4 :	1.0	0.25
Objective Question				
101	101	If the specific rotation of pure allyl halide is +100° and a chemical reaction with NaI generates a new allyl halide with a specific rotation of 0°, which reaction best describes the result? **A1 : SN^1 – (Correct Alternative)** A2 : SN^2	1.0	0.25

		A3 : Acid-Base A4 : Radical		
Objective Question				
102	102	A compound with molecular formula C_4H_8O shows M-15 peak in mass spectrum and peaks at 57.8, 76.8, 136.0 and 118.2 ppm in ^{13}C NMR spectrum. The structure of compound is A1 :  **A2 :**  **– (Correct Alternative)** A3 :  A4 : 	1.0	0.25
Objective Question				
103	103	Which is the main product of the following reaction of an acyl azide? 	1.0	0.25

A1 :

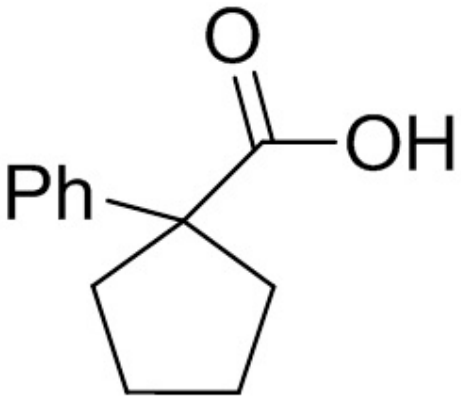


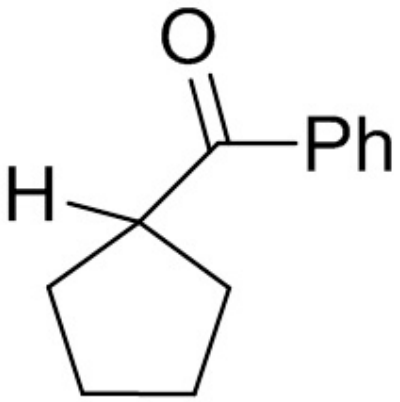
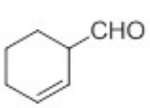
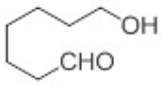
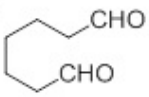
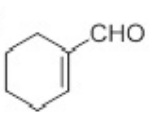
A2 :

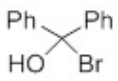
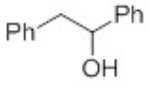
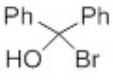
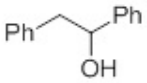
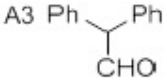
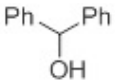
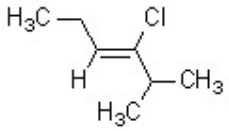


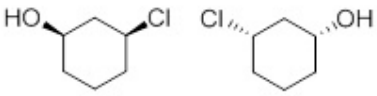
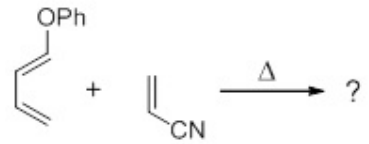
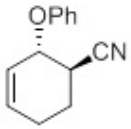
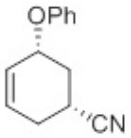
– (Correct Alternative)

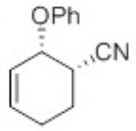
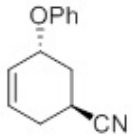
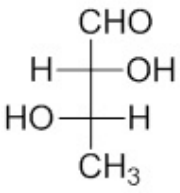
A3 :

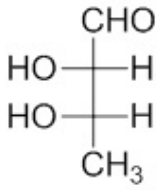
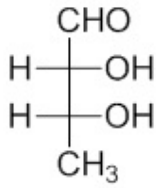
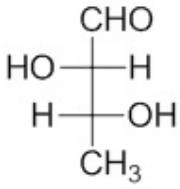
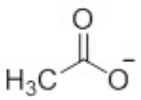
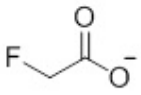
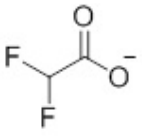
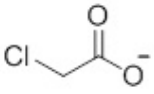


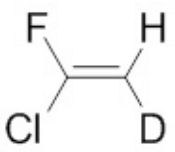
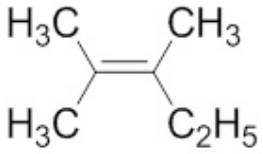
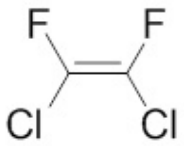
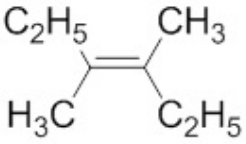
		A4 :  		
Objective Question				
104	104	Cycloheptene on ozonolysis followed by reaction with dimethyl sulfide and water gives compound A, which on further treatment with aqueous NaOH gives compound B. What is the structure of compound B? A1 A1 :  A2 A2 :  A3 A3 :  **A4 A4 :**  **– (Correct Alternative)**	1.0	0.25
Objective Question				
105	105	In the given reaction sequence, product Y is.. Benzyl bromide —Mg, Diethylether→ X —Benzaldehyde, H_2O→ Y	1.0	0.25

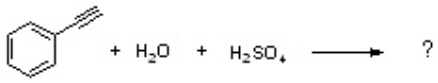
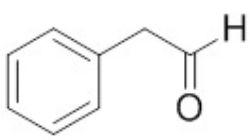
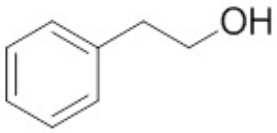
		A1 :  **A2 :**  **– (Correct Alternative)** A 3 : A1  **A2**  A3  A4 A4 : 		
Objective Question				
106	106	What is the IUPAC name of given compound?  **A1 :** (Z)-3-chloro-2-methylhex-3-ene **– (Correct Alternative)** A2 : (E)-4-chloro-5-methylhex-3-ene A3 : (Z)-4-chloro-5-methylhex-3-ene A4 : (E)-3-chloro-2-methylhex-3-ene	1.0	0.25
Objective Question				
107	107		1.0	0.25

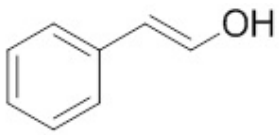
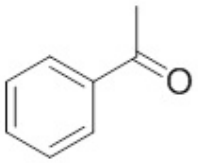
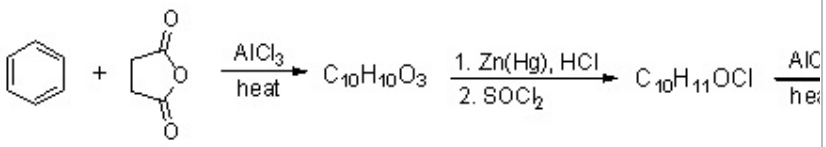
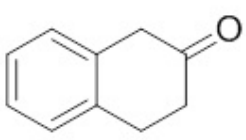
		What is the relationship between given pair of molecules?  A1 : Enantiomers A2 : Diastereomers A3 : Epimers **A4 : Same compounds – (Correct Alternative)**		
Objective Question				
108	108	The major product formed in the following Diels-Alder reaction?  A1 :  A2 :  	1.0	0.25

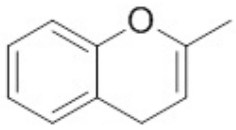
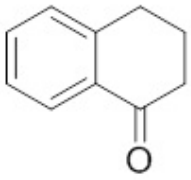
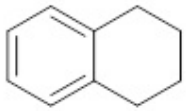
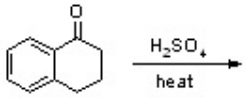
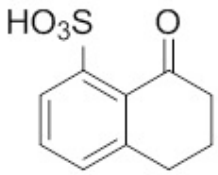
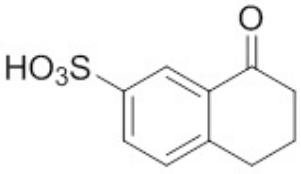
		A3 :  **– (Correct Alternative)** A4 : 		
Objective Question				
109	109	$CH_3COOC_2H_5$ A1 : Methyl ethanoate **A2 : Ethyl ethanoate – (Correct Alternative)** A3 : Methyl propanoate A4 : Methoxy ethane	1.0	0.25
Objective Question				
110	110	Which is correct Fisher projection of (2*S*,3*R*)-2,3-dihydroxybutanal A1 : 	1.0	0.25

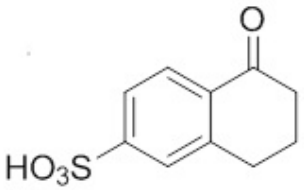
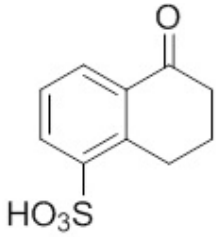
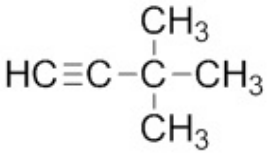
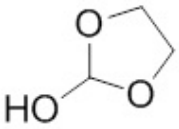
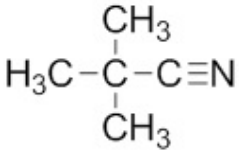
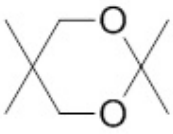
		A2 :  A3 :  **A4 :**  **– (Correct Alternative)**		
Objective Question				
11 1	111	Ionic species are stabilized by the dispersal of charge. Which of the following carboxylate ion is the most stable? A1 :  A2 :  **A3 :**  **– (Correct Alternative)** A4 :  	1.0	0.25

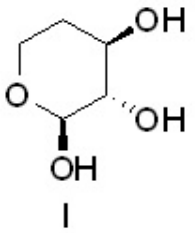
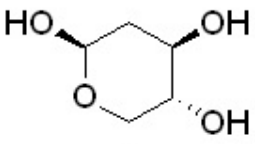
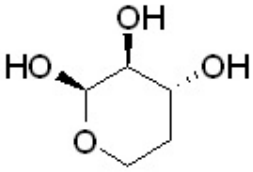
Objective Question				
112	112	Which of the following molecule will not show geometrical isomerism? A1 :  **A2 :**  **– (Correct Alternative)** A3 :  A4 : 	1.0	0.25
Objective Question				
113	113	The specific rotation of pure (R)-2-butanol is - 13.5°. The specific rotation of and (S)-2-butanol is - 5.4°. What is the percentage (%) of (S)-2-butanol prese **A1 : 30 – (Correct Alternative)** A2 : 40 A3 : 60	1.0	0.25

		A4 : 70		
Objective Question				
114	114	The name of given bicycle compound Y is Y A1 : bicyclo [2.2.0] octane A2 : bicyclo [1.2.1] octane **A3 : bicyclo [2.2.2] octane – (Correct Alternative)** A4 : bicyclo [2.2.1] octane	1.0	0.25
Objective Question				
115	115	What is the major product formed in the following organic reaction?  A1 :  A2 : 	1.0	0.25

		A3 :  **A4 :**  **– (Correct Alternative)**		
Objective Question				
116	116	Which of the following is not a reducing sugar? **A1 : Sucrose – (Correct Alternative)** A2 : Mannose A3 : Lactose A4 : Fructose	1.0	0.25
Objective Question				
117	117	What is the expected product from the reaction sequence drawn below?  A1 : 	1.0	0.25

		A2 :  **A3 :**  **– (Correct Alternative)** A4 : 		
Objective Question				
118	118	Which of the following is the major product from sulfonation of α-tetralone?  A1 :  **A2 :**  **– (Correct Alternative)**	1.0	0.25

		A3 :  A4 :  		
Objective Question				
119	119	The ^{13}C NMR spectrum of an unknown compound shows three lines at δ 126, 28. following compounds best fits this data? A1 :  A2 :  **A3 :**  **– (Correct Alternative)** A4 :  	1.0	0.25

Objective Question				
120	120	Which two of the following compounds are diastereomers?  I  II  III A1: **I & III – (Correct Alternative)** A2: II & IV A3: III & IV A4: I & II	1.0	0.25

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